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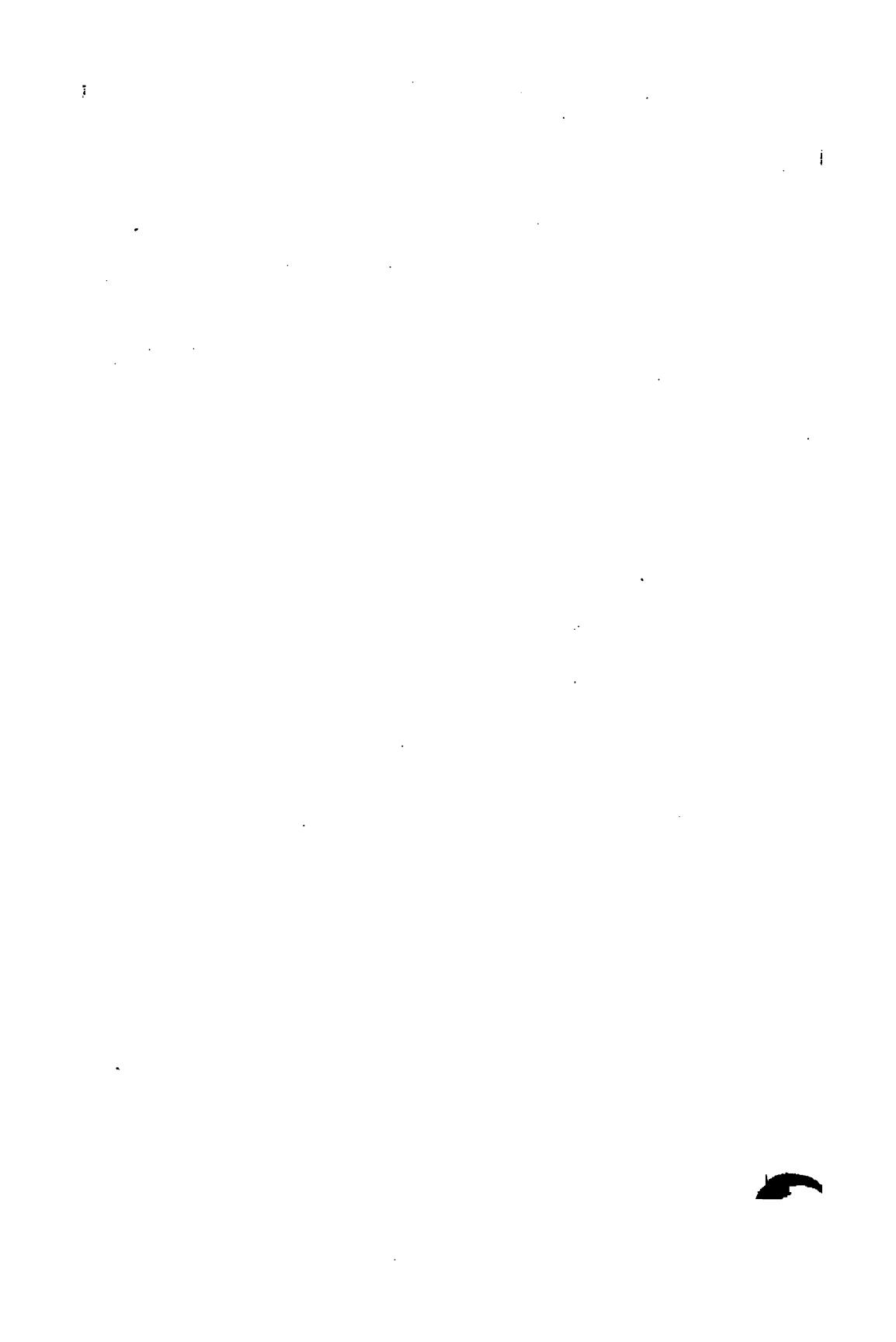
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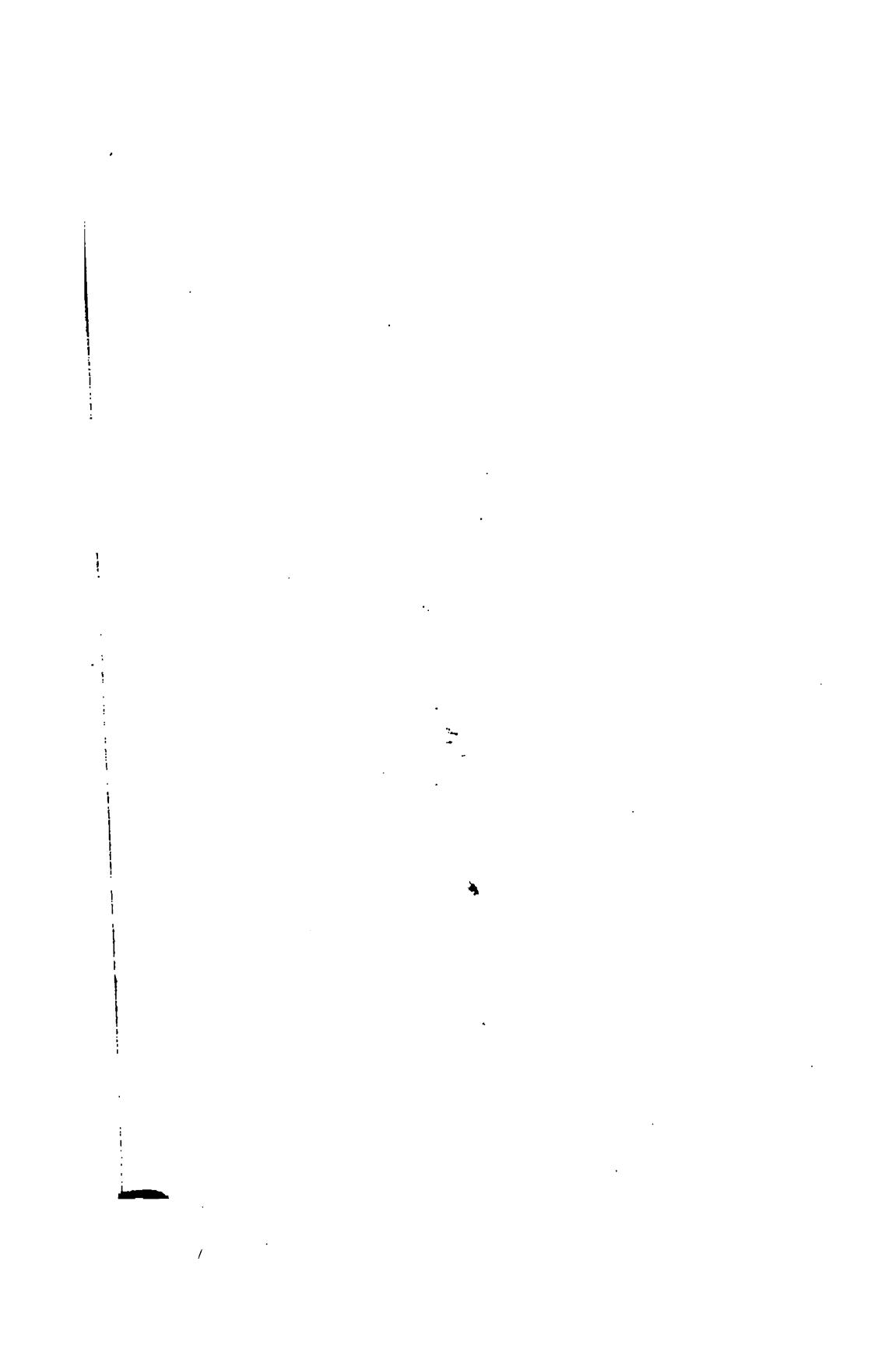
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BY  
Commander J. A. Paynter.

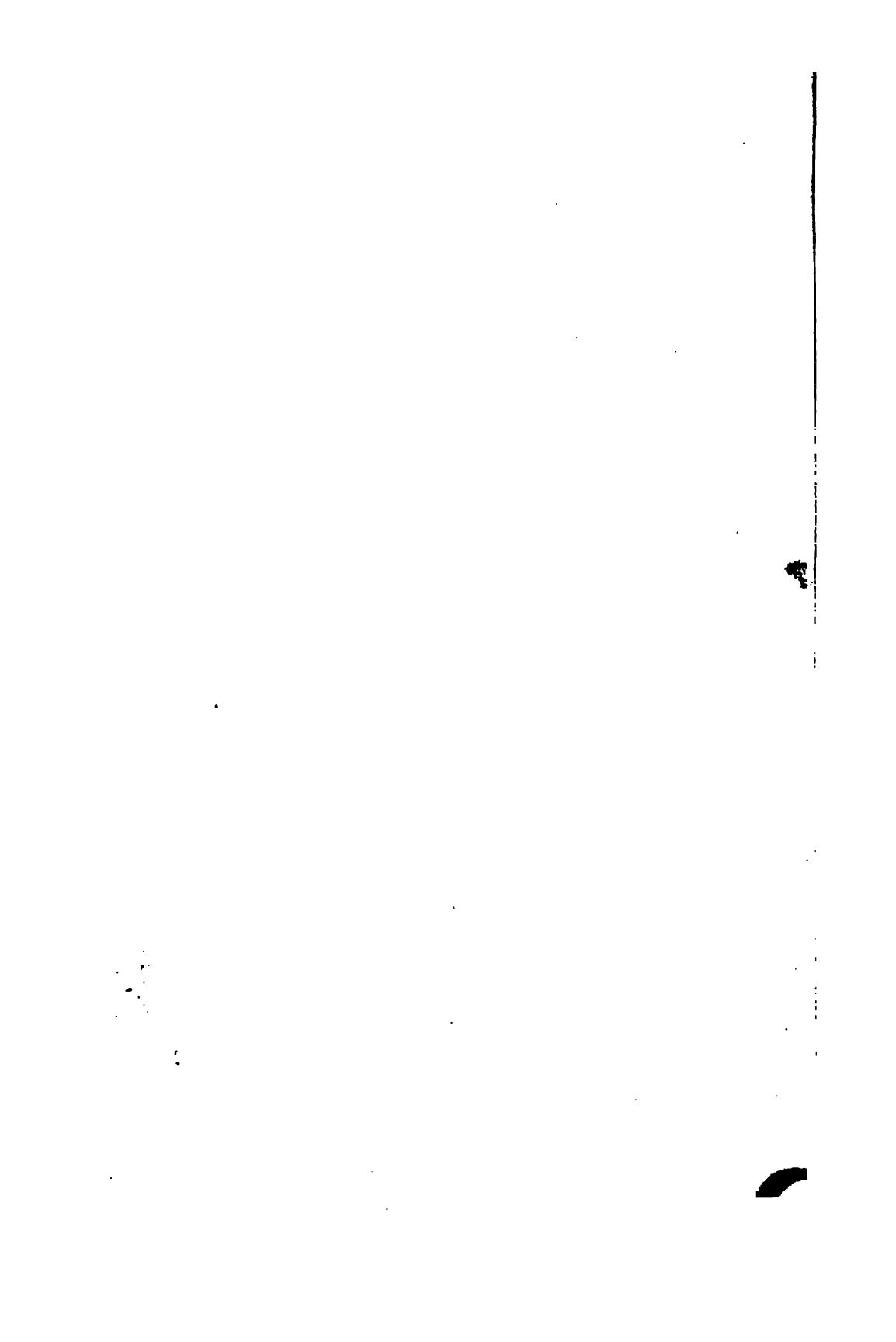
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48. 339.











# NOTES

ON



## NIGHT QUARTERS AND BOAT

## SERVICE.

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BY

COMMANDER J. A. PAYNTER, R. N.

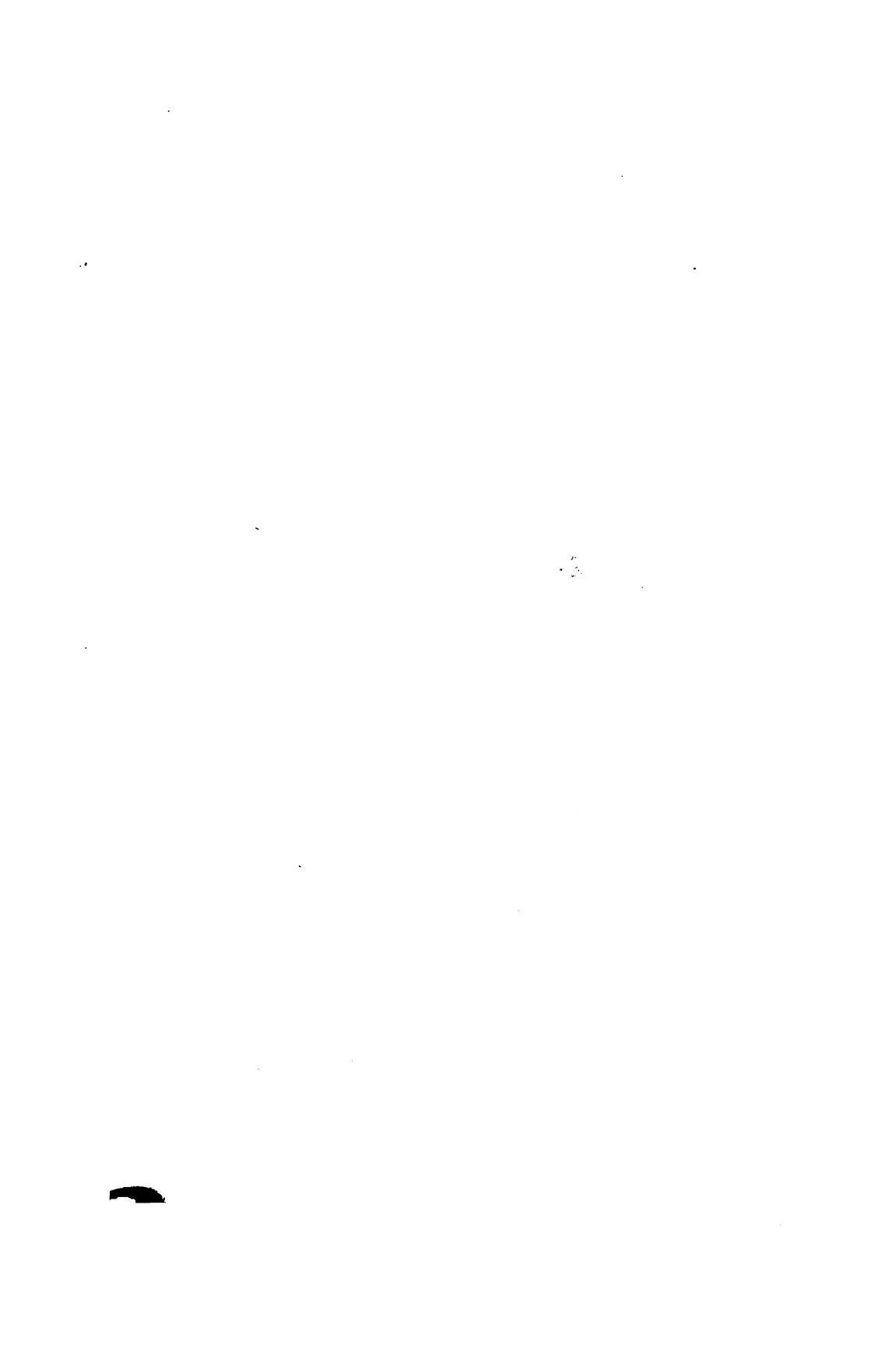
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PORTEA: W. WOODWARD.

PARKER, FURNIVAL & CO., CHARING CROSS, LONDON.

1848.



## P R E F A C E .

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HAVING lately returned from four years and a half service in H. M. S. *Agincourt*, on the East India and China station, and during that period being impressed with the importance of an organized system of Boat Service, I was induced to offer a few notes on the subject to the Earl of Auckland, coupling with them some observations on Night Quarters, and as my remarks have been favorably received, as will appear by the letter subjoined from the Board of Admiralty, I beg leave to offer them to the notice of the service.

J. AYLMER PAYNTER,

Commander, R. N.



ADMIRALTY, Jan. 7th, 1848.

SIR,

The Earl of Auckland having laid before my Lords Commissioners of the Admiralty your work, entitled " Notes on Night Quarters and Boat Service," and my Lords having carefully examined that work, desire me to express their satisfaction at the pains you have bestowed on so important a subject, and their approval of the many valuable remarks contained therein.

Their Lordships can have no objection to the work being published, feeling satisfied that it will be useful to many a Naval Officer.

Their Lordships will be happy to take a certain number of copies in the event of its being published.

I am, Sir,

Your obedient servant,

W. A. B. HAMILTON,

Commander Paynter, R. N.

Secretary.



## NIGHT QUARTERS

IN

### LINE OF BATTLE SHIPS.

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ALTHOUGH captains have seldom exercised their ships' companies in this important station, there are few duties on board vessels berthing men on a gun deck more necessary or important. As the Admiralty now make it imperative for all ships to "Clear for Action" during the night, at least once every three months, some general directions might be laid down for commanding officers to be guided by in their lower deck Night Arrangements, which, I trust, may soon emanate from the *Excellent*.

There are several obstacles in our present system of fitting which operate, more or less, against ships of the line clearing their batteries quickly; the principal ones I consider are,

- 1st—Insufficiency of light.
- 2nd—The bags of the ship's company.
- 3rd—Ship's company's mess traps and stools.
- 4th—Officers' furniture.

It is comparatively a trivial duty for a frigate to clear during the night; her gun deck is ready, her reserve shot at hand on the lower deck, and (save the hammocks, in the wake of the

hatchways, which are soon lowered down), she is as fully prepared for action as in broad daylight; not so the line-of-battle ship; her most powerful batteries are encumbered to an extent incompatible with a rapid clearance, and nothing but alacrity and system can hope to clear those decks in anything like a reasonable time. Her main, upper, middle, and lower decks *must wait until the lower hatchways are clear for the magazine screens*; her hammocks have to be piped up, her guns are secured inboard, her lower-deck ports have to be unbarred,\* the mess-traps have to be removed, the bags to be restowed, and her reserve shot must be hoisted or handed up hatchways, that stools (fitted with wooden legs), have to be passed down; taking these difficulties into account, let us consider the question, “What is the *longest* time in which a line-of-battle ship, in fair order, and with a small sick list, should be effectually ready for immediate close action?”—Take a case—

### 120 gun-ship at sea blockading.

(For a ship *in harbour* has many advantages, her guns are out and loaded, sails furled, springs on, and half the crew sleeping at their quarters). Suppose her watch is on deck, the look-out, sentries, wheel, signalmen and leadsmen at their stations, the watch below in their beds, and all hammocks down. Admit that it is possible for such a ship to be taken *entirely* by surprise in consequence of a thick fog, blinding rain, a very dark night, or cruizing in shore, near bluffs of land, and presuming that both ships beat to quarters at the same instant, minutes become valuable, for shot entering whilst a crew are clearing,

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NOTE.—H. M. S. *Ayincourt*, when employed cruizing in China, or making a passage, generally kept her lower deck ports open at night; they were lowered down by order from the quarter deck, when the ship was struck by a squall, and hauled taut by port laniards. The muzzle and saddle lashings were often cast loose in strong breezes, and as she was a very easy ship, she could carry her guns so in heavy weather with impunity, if required—doubtless, an advantage, if blockading.

though it may quicken the fingers, would distract attention and shake steadiness ; it certainly becomes, therefore, a matter of the utmost consequence to either combatant to open an effective fire first. Now, a 120-gun ship, with a complement of 1000 men, cannot have fewer than 800 hammocks down (I assume that the watch on deck have not stowed), and it will take a smart seaman, admitting him to be sound asleep at the moment he was aroused to action, two minutes to stow his hammock and get to his gun, provided he has a clear run up and down the hatchways (which, in this case, he will not have, for 800 hammocks are moving at the same time, not including cockpit, or tier hammocks), and there are only four large hatchways for this tremendous crowd to pour up from ; now four hammocks at a time, loosely lashed up, block up a hatchway, and eight is the outside that can stand on the ladders at the same time, in all, thirty-two. If twenty or twenty-five seconds are allowed for that number to stow their hammocks in, one hundred can stow in a minute, or the whole in eight minutes ; but this time is, in my opinion, not sufficient, as ships are at present fitted, if every bed is to be off the fighting decks, for line-of-battle ships have no lights on their lower and middle-decks ; a wretched apology for one throws its dull and smoky glare around the immediate posts of the sentries, and there are purser's lanthorns hung up near the galley tank, and cockpits (most naval men know what a "brilliant," a purser's dip in a purser's lanthorn is), but the whole length and breadth of the middle and lower decks are without one candle to enable hundreds to dress, lash up, and clear by ; the master-at-arms, if he is expert enough, makes a dive down below to extinguish the cockpit lights, and having secured the store-room keys, passes through the wings to open the store-rooms to light the lamps in the light-rooms. The gunner and his magazine-men are crowding down in a space rapidly filling with bags, mess-traps and stools (fitted as usual) ; they have to open six doors

and two scuttles, as well as let down and lace the orlop screens; they have to perform these primary duties in profound darkness, and in the hurry and excitement attending a surprise; consequently I consider these arrangements imperfect ones, and some plan should be devised to facilitate the great object of clearing for action quickly, and yet secure safety from all accidents. Many ships have their stools fitted with iron legs, which lie close down when required; they are placed on the tables, and fit up between the beams; if allowed to all ships they would save time and clear hatchways, for be as systematic as possible in sending the old pattern ones below, they constantly lock their legs and produce a jamb, which occupies a brief space of time to clear.\*

I consider it a great evil for a line-of-battle ship's lower deck to be kept throughout its whole length without lights at night, crowded as it is with men and their property; and I am of opinion that good lighting would make a great alteration for the better in the smartness, steadiness, and rapidity of clearing lower batteries for action, by banishing confusion. I will offer my views of *lighting* to the consideration of my brother officers, and endeavour to apply a remedy to the present "*Insufficiency of Light.*"

I consider that two Argand pedestal lamps, well defended and capable of being shaded, might be placed near each hatchway, amidships, making in all six lights for each deck. They should always be lit when the lights are put out, and perform the same duty as street lamps; from these central lights the fighting-lanthorns and matches could be lit, the cables worked in weighing and anchoring during the night, and near them the drinking water-tubs could be placed as a precaution against

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\* The "*advanced ships*" at Plymouth that I have visited, have their stools, cabins, messrooms, and fittings, old fashion; several of them are small liners, consequently the crews will have the same disadvantage we experienced in the *Aigencourt* to contend against, and probably without an immediate remedy to meet the defects.

accident. In the after part of the fore-cockpit two large lamps should be fixed, the bull's-eyes throwing a strong powerful light into the passages of the magazine, wings, and tiers. They would serve for bending sails, handing up hawsers, clearing cable-tiers, or working hemp cables. In the centre of the wings two more lamps of the same description; and in the after-cockpit, two similar lamps, placed by the foremost cabins to throw light through the after-wings, midship-wings, and tiers, would be useful to the shipwrights, and for working shot, shell, and the tiers.

In the centre of the after-cockpit two lights with good reflectors should be placed, having their pedestals in the centre part of the amputation-table, the drawers of which (saving two) of this table should be removed as perfectly unnecessary. These lamps, with the admiral's, captain's, ward-room, and surgeon's lights (hooks being put in on purpose to hang them up), would be sufficient for the medical men during the performance of their operations. The cockpit hammocks should be lowered down by their assistants and distributed along the chests, and stools placed agreeably to their directions.

I would abolish the practice of serving out lanthorns to mates of decks, petty officers of decks, and the night guard. A few might be serviceable for extra purposes, but not for general orders.

By this plan, modifying it to the several rates, a sufficiency of light would be obtained, and the incessant moving of dozens of bad lanthorns altogether abolished.

I am convinced that stationary lamps are much safer, better cared for, and more suited to all descriptions of night work than those of our present system, and if it is requisite, they can be shaded in an instant.

Our magazine-lamps, the service consider perfectly safe. A line-of-battle ship has three or four lights for her fore-magazine; the filling-trough is immediately under one of these lights.

the lamps are prevented firing the powder by two glasses, two inches apart, protected by copper wires ; yet, under all circumstances of service, no man dreams of the slightest danger ; but probably they could be improved and rendered safer than they are at present. I would have them placed at the end of long copper tubes, cased with glass or tin, and powerfully reflected with three glasses, fixed at intervals along the tube, and I would increase the number of tubes to five in large magazines.

The second obstacle is *the bags of the ship's company.*

This impediment applies particularly to 72 gun ships with 600 men. The commanding officers of most small line of battle ships stow them in the tiers during the day, and pipe them up after the decks are cleared, or at some other stated period of the afternoon or evening ; during the night they remain on the lower deck under the mess-tables ; they are, therefore, in the way of the cables and hawsers by day, and the guns by night.

The following plan of stowing I think advantageous for service under most circumstances :—The bag-racks fitted by the Dock-yard amidships on the lower and middle-decks should never be removed ; the lower-deck racks could take 130, viz., the bags of the boats' crews, quartermasters, boatswain's mates, signalmen, and sweepers ; the middle-deck racks 90, viz., the bags of the guard, non-commissioned officers, band, and cooks ; the poop-nettings could take 110, viz., the bags of the mizen-topmen, poop afterguard, second-class boys, and ship's corporals, making a total of 330. Now, if 900 bags is the number to be stowed, there remain 570 to be distributed in the four bag-racks on the orlop-deck, 143 nearly in each, for which there is ample room if neatly arranged ; the yeomen and carpenter's mates might stow in the store-rooms. At 8 p.m. every bag should be in the racks on all decks, well covered, and in charge of sentries. Ships whose magazines are amidships have their store rooms below the orlop-deck ; consequently the space now occupied by store-

rooms (in vessels whose magazines are old fashioned) remains unoccupied, and is sometimes used as a large commodious bag-rag. The *Vanguard* was enabled to stow every bag in the ship there, and with such convenience to her crew, that any bag could be taken out without disturbing the rest, a most comfortable and desirable arrangement for both men and quarters.

By this method, the guns of the lower batteries, and the tiers for working cables,\* hawsers, or springs are clear. Ample room is left on both decks to transport guns from either side, or forward and aft, and cannot interfere with any of the duties performed on the lower decks.

*Thirdly*—The *men's mess traps* form another inconvenience on these decks. It is the custom of the service to fit mess shelves for plates, basons, spoons, *et cetera*, between each gun; and I have never seen, during quarters, *any* vessel remove them, or even propose any place of temporary stowage; yet it would be exceedingly improper to allow them to remain on the shelves, for a shot would send them in every direction, and the sharp splinters of glass and earthenware might give serious injuries to men who would otherwise be unwounded; to allow them to be hove overboard is out of the question, whilst to pack them in the service mess traps would necessarily create delay. The best remedy I can think of is, to remove all mess shelves from the sides of the ship, and supply from the Dock-yard strong mess boxes fitted to receive the requisite articles for 30 men; they could be taken on charge, with two extra ones for boats and large working parties, when on duty from their ships. I had one fitted and furnished with every convenience for a seamen's mess of 30 men, including vinegar, pepper and salt bottles; it was easily lifted by one man, and hooked into the side under the mess table after meals;

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\* H. M. S. *Aigincourt*, at Hong Kong, in 1846, moored, twice shifted berth, and laid at single anchor with her hemp bowers, but her bags were obliged to be on the lower deck the whole time.

the mess kettles, plates, pots, spoons, *et cetera*, were of pewter and strong tin, and the size of the chest 18 inches high, 32 inches in length, and 24 inches in width. If boxes, similar to the one I mention, were generally served out to the service, they could be either sent below at 8 p. m., or placed amidships if going to night quarters, leaving nothing on the fighting decks to be sent below except the bread bags or barge bags and kids, one dish for any broken meat, and a couple of cans for drinking water.

*Fourthly*.—As the bulkheads of officers' cabins and messrooms are now constantly triced up, or removed during exercise, it will in future prevent that accumulation of furniture which has generally been considered necessary for their comfort and convenience. It therefore becomes a question of considerable interest to all serving officers to know how much furniture or goods they are expected to keep in their cabins on the gun decks, and whatever that quantity is, should be protected in a manner that will clear them of expense. “*Two removes are equal to a fire*,” and having boxes of clothing, tables, bedsteads, drawers, and trunks lowered down hatchways once a week will very soon break them up, and destroy the clothing; taking every thing into consideration, it would answer service views best, if all cabins were on the orlop deck, fitted as the French and American line of battle ships have theirs at present.

I think that the Dock-yard fittings of a cabin should be four strong tin boxes made to trice up between the beams, a stout iron-bound chest with lower drawers, a circular iron washing-stand, and an iron cot. These articles of furniture are all that are *absolutely* necessary for a wardroom officer's convenience. When bulkheads are triced up, everything is in its place with the exception of the chests, and they need not be lowered down

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N. B.—The *Prince Regent* is now fitting at Portsmouth, with almost all the cabins on the orlop deck

every period of exercise, especially at night, excepting on that deck where the spare tiller ships. A couple of private trunks and the chest would take an officer's equipment in the case of a removal.

The after-hold and spirit-room whips, with butt slings, should be rove at evening quarters for bulkheads and furniture.

Although the spare wheel and ropes are always supposed to be ready for the tiller on the lower deck, yet they should be so shipped and fitted with leading blocks as to enable them to be brought to the spare tiller on the middle or main-decks when required. If rove and worked for a short period in connection with the proper wheel, marks can be placed on them for reeving and setting up, and should invariably be worked during night quarters.

I have now touched upon the principal points that bear with greatest force against a *quick clearing at night*, but as this note is simply to call attention to an important manœuvre but lately adopted, and in some cases imperfectly carried out, there remains one subject, but one of considerable interest, which I think well worth an enquiry into,—it is the stationing of powdermen; the instructions state “that the stationary powdermen supply *opposite* guns, except in small vessels, where booms and boats are obstacles.” There are obstacles in every ship,—hatchways, masts, stanchions, sheep-pens, bitts, galley, ladders, pumps, firescreens, springs, and cables (especially if anchored by the stern) belong to every ship, and in small liners (if sails are unbent) bags *must* be on the fighting decks. The whole amounts to a serious obstruction, even provided that the opposite guns could be so fired as to require the presence of the powderman at the exact period of loading; but this never can be taken for granted, because, both sides work by pairs on their *own* sides, and are perfectly independent of the discharge on their *opposite* sides; consequently, both guns supplied by the

same powderman may be in want of, and demanding powder at the same instant; also the extra powderman may, for the moment, not be aware where his stationary men are; he supplied them on the port side, he finds them waiting on the starboard side; he has possibly scrambled over the cables or tow ropes, or passed round a capstan, or tripped over a hatch-way or spring, and a loss of time, and therefore of fire, is a natural consequence of his anxiety to supply his guns. My idea is, abolish the system and adopt the brigs' method for all classes. Even guns (port side) should have port watch powdermen, and odd guns (starboard side) should have starboard watch powdermen; these men, standing where they receive the powder in the rear of their respective guns, are prepared to load the first division if ready, or the second division, if cast loose first; the extra powderman on the port side supplying his two stationary men, or *four* guns on the port side, and vice versa. Now trace the working of this method from the screens to the guns, the extra powderman has not to draw his supplies sometimes from the port or starboard sides of the screen as the varying exigencies of his demands require, but always from a particular side, he knows the exact spot where to meet his stationary powderman, and receiving himself from one side gives to his stationary man on that side. The stationary powderman having a clear view of his two guns can supply the gun in immediate want, receives his powder without moving from the neighbourhood of his subdivisions; and the officers and the captains of guns, have a constant controul over their supplies.

The screens should have a *return scuttle on the fore part on all decks with a funnel to discharge the empty boxes down to the orlop deck*, for in the present system, there is detention in handing up, by causing the magazine men inside the screens to be at one moment receiving full, and at another empty boxes. In the *Agincourt* I fitted return funnels to the fire screens, the

powdermen were worked by the above method in the presence of Sir Thos. Cochrane and Captain Johnstone, the Admiral gave the order "hand up powder and fire six rounds shotted on both sides, the third round double-shotted." It took nine minutes to complete every gun; this firing was equal to twelve rounds in nine minutes on one side. The Admiral expressed himself perfectly satisfied on the point, and said that it possessed a manifest superiority over the old method, and *the captains of guns stated that they never waited for powder*. I mention this merely as a trial of a magazine, we never could before manage to fire off on one side more than fifteen rounds in fifteen minutes, having three rounds on deck previously. The ship was exercising with wads at sea when the order was given by the Admiral, and consequently had the majority of her cartridge boxes on deck, or on the move; there was no unworthy effort to deceive, no clap-trap attempts at preparation in having powder in the passages or stowed in the fore cockpit ready for momentary use; for the object of the Admiral was to forward "efficiency of fire," and in my opinion he fully succeeded.

The straps of the cartridge cases should be round, or, if flat, only of sufficient length to allow the covers to turn back, at present they take "turns" in and cause delay in the magazine. The powdermen should be warned never to sit upon their boxes, as their weight bursts the side wires; and in discharging their empty boxes through the return funnels, to be careful to place the "*covers on*." If the copper magazines, known by the name of "Feads," were supplied to all ships, in the ratio of two to a division of eight guns, on the middle and main-decks, and filled with reduced charges, and stowed in particular guns, a round could be loaded on those decks whilst the main magazine was

**NOTE.**—Two guns carried away their breechings, one gun lost her rammer, and two their locks.

opening. The powder kept in these copper magazines is perfectly safe, and might always be fired in the weekly exercises. I have known twenty tubes fired upon them without heating the copper, the saluting charges being at the time in them.

Admitting the alterations I have mentioned to take place as an experiment, a three decker could stow her hammocks by the riggers in eight minutes, cast her main and middle deck guns loose and be ready for loading in two minutes (these guns could be loaded by Fead's magazine), and her lower deck guns cast loose and ready for loading in four minutes, by which period the magazines would be opened, the stools sent below, and the fire screens let down. The officers would have been in communication with the captain regarding the charge, distance, and position. The officer of the watch, or (if relieved), the commanding officer, would have placed the ship in her position by the sail trimmers, who should remain on deck when their hammocks are stowed. No look-out man, sentry on deck, wheel, or signalman should quit his post until the order for firing commenced, and no gun should be fired without an officer's knowledge of the enemy's position ; but I am of opinion that, provided the divisional officers are careful at evening muster to fill up vacancies caused by death, removals, or sickness, and to equalise their guns' crews for night action, a three decked ship under easy sail, fairly manned and disciplined, should not be longer than *twelve minutes* in commencing a rapid and *well directed* fire from all decks *by order*, and proceed firing without a stoppage.

For a night target, a puncheon fitted with a staff fifteen feet long, and a small yard having five lanthorns hung upon it, and two hand lights lashed together on the top of the staff, will clear any sea or spray in moderate weather, and give a good light 600 yards off for forty minutes. The staff should pass through the bottom of the puncheon five feet, with shot slung to the end.

## BOAT SERVICE.

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### *Manning and Arming.*

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THE great importance of an organised system, by which the boats of a squadron may be rapidly prepared for the performance of *any* orders that may follow on their assembling at the signal "*man and arm boats*" will not be disputed; yet each ship has its own boat arrangements, which even in essentials vary to such a degree as to render quick combinations of divisions of boats an arduous and responsible duty for the commanding officer. He knows he commands energy, ability, physical power, and gallantry, yet the want of a *general system* throughout the Fleet in this important operation, renders for some time his work one of incessant trouble and constant watching. A ship suddenly joining on the eve of a boat expedition—a newly commissioned ship,—change of seniority (altering all prior details) render difficult the numerous directions the commanding officer is obliged to give before he feels confident that his orders are distinctly understood, and that full reliance can be placed upon one and all of the divisions under his command.

The constant attention paid to this important feature in service economy by Sir Thomas Cochrane, the Commander-in-Chief on the Indian Station, tested the absolute necessity that existed for a "*general plan*." A defined drill in movements under oars, a general Boat Signal Book for the Fleet, a written statement, shewing the effective state and condition of boat, armament, and crews (which was given in on the moment of joining, by the commanding officer of a division of boats), was the result of experience; and as drill days came round, one article after another that had never been thought of as essential to the exigencies of the service, or the comfort of the crew, came to be supplied as circumstances demanded their application, and the boats became, by the final arrangement, capable of combined movement, and ready for any emergency that time, weather, distance, or sickness required.

I will, therefore, take the Indian Squadron as the basis from which I start, and I do so for two reasons,—1st. Because I consider the boat arrangement of that squadron practicable, and that experience has approved its working. 2nd. Because on no station of late years have the squadrons of England been so called upon to send their boats away for days on an enemy's coast exposed to every vicissitude which war, sickness, and tropical weather produces. New Zealand, China, and Borneo, are proofs in support of my position, and in carrying out details (which may appear of no immediate consequence), the conviction of an approved method of *manning* and *arming* for distant service is strong in the mind of every commanding officer whom I have spoken to upon the subject. It produces uniformity, comfort, and steadiness, releases the senior officer from entering into details, places the discredit of inefficiency upon the proper shoulders, and leaves nothing for the commanding officer to think of, but the manner in which an attack, a descent, or a cruise is to be executed, and which every reasonable man will consider quite sufficient for him to attend to.

I will place under four headings the orders of arrangement from which an organised system might spring, viz.:—

*1st.—Manning and arming for distant service, requiring more than 24 hours absence from the ship.*

*2nd.—A general signal book for boats.*

*3rd.—Statement of efficiency.*

*4th.—Boat drill under oars.*

The first proposal embraces in its signification every article pertaining either to the boats, crews, or armament, that can be required under all general circumstances of service, where casualties occur, without the power of falling back to their ship for a supply, and the hurry and bustle attendant on “Man and Arm Boats” suddenly, with so many things deficient, remedied. I do not mean to be understood, that if a ship can hoist out her boats, and send them away in so many minutes *complete for service*, she should not by all means do so, but what I mean to say is send them away complete, for I consider that if a ship can, by her discipline, send her boats away for distant service in 15 minutes, and one of them be found deficient, in any particular, she forfeits all claim to be considered before a ship that is an hour in her evolution, but has everything that human foresight can consider requisite for all exigencies of service. It is reprehensible in a commanding officer to dismiss his boats with an exclamation of “Oh, never mind, shove off, it wo’t be wanted,” and still more so, if he thinks “it wo’t be found out.” To prove it may be wanted, and to be certain of its being found out, is the object I wish to attain, and if I do not succeed, it may cause others to propose a method still more stringent and enforcing.

To meet this case, a published list of stores should be forwarded to the Captain, and by him framed and placed in some

conspicuous part of the ship; and as all stores of what nature soever are obtained from the warrant officer's store-rooms, I consider it would facilitate execution by rendering them responsible for their due provision; and if a correct list be appended in each store-room for each description of boat, there can be no valid excuse for neglect.

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*Stores for boats employed on service.*

I shall place the stores under two heads, viz. :—

1st.—Distant service stores for boats carrying guns.  
2nd.—Distant service stores for boats not carrying guns, but carrying armed men.

The masts and sails, anchors, cables, and oars, awnings and stanchions, I suppose always ready in the boats when out, and the first things put in when the thwarts are fixed after hoisting out, and when going on service, gun, carriage, slide, and gear complete.

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*Officer of boat to provide,*

Signal flags in boat of commanding officer of the division.

Pencil and paper.

Tourniquets.

Small log-reel. }  
Spy-glass. } To be becketed up behind the back-board.

Answering pendant.

Signal-book.

Range board for gun (nailed to back-board).

Keys of cartridge-cases. }  
Stop-cock of spirit-breaker. } Put on a guard-chain.

And to generally superintend, and have a correct list of all stores for his boat.

*Boatswain to provide from his store-room,*

Boat's binnacle complete.

Ball of spunyarn.

12 fathoms of rounding (stowed in stern-sheets).

Spare sennit for oars.

4 spare blocks. { Size required by } Made up snugly and  
30 fathoms rope. { establishment. } stowed in the stern-sheets.

Lead and line marked in feet. }  
6 spare grummets. } Stowed in stern-sheets.

Palm, needles, twine, 6 yards }  
of light canvas and a small }  
marlinspike. } In a bag.

*Carpenter to provide from his store-room,*

To be at all times in the boat when in use. { Fearnought, nails, hammer, grease, sheet-lead, oakum, chinzing-tools, strips of copper for oars. } To be in a small box, stowed as a drawer in stern-sheets.

Boat's galley (slung between two foremost thwarts).

Rain-awning. 1 gangboard.

To be triced up on each side under thwarts. { 2 spare oars; set of paddles.  
1 " boat-hook.  
2 " rullocks.  
2 " throwlpins, if fitted for them.  
1 " stretcher.  
Tarpaulins to cover ammunition.  
2 punches for unshackling cables.  
1 shovel, 1 crow-bar, 1 axe, 1 saw. } In charge of the carpenter appointed to boat.

*Gunner to provide from his store-room,  
"For launches carrying 24-pr. howitzer,"*

2 whole cases holding 100 cartridges and 150 tubes, either  
Fynmore's, or detonating according to lock.  
100 round shot and wads.  
\*30 spherical case.  
30 grape.  
10 carcases.  
20 rounds ball cartridge, in seamen's pouches.  
40 ditto, in marines' pouches.  
30 percussion caps, in seamen's pouches.  
50 ditto, marines' pouches.  
Match and match-tub.  
2 tomahawks to cut wood.  
Spare breechings and tackles.  
2 blue lights.  
2 signal rockets.  
1 portfire.  
1 nipple wrench.  
Spare sponge and rammer.  
Spare flints.

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*Reserve small-arm ammunition,*

Half case holding 1,400 rounds.  
Tin cannister holding 2,000 spare percussion caps.  
Small breaker fitted with Beckford's fuze.

\* The "Aigincourt's" Spherical Shot were filled, fuzed, and stowed in Grape boxes (eight in a box) with painted canvas covers, marked as to No. and distance the fuze was cut to, in capital letters on the cover.

*For barges, pinnaces, and yawls, carrying  
18 prs. or howitzers, or carronades.*

Whole case, holding 60 cartridges and 100 tubes, Fynmore's, or detonating according to lock.

60 round shot. 10 spherical case. 5 carcases.

10 shell. 20 grape.

20 rounds ball cartridge in seamen's pouches.

40 ditto marines' "

30 percussion caps seamen's "

50 ditto marines' "

2 blue lights. 2 signal rockets.

1 portfire. 1 nipple wrench.

Match and match tub.

2 tomahawks to cut wood.

Spare breeching and tackles.

Spare sponge and rammer.

Spare flints.

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*Reserve small-arm ammunition.*

Quarter case holding 700 rounds.

Tin case, holding 100 spare percussion caps.

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*For boats without guns, but carrying armed men,  
including cutters, jolly boats, and gigs.*

Officer of boat

Boatswain

Carpenter

} Provide the same stores as for gun boats.

Gunner to provide as in gun boats, excepting the ammunition and gear for guns.

In *cutters*, leather cartridge case (holding reserve small arm ammunition) 300 rounds, and 370 percussion caps.

In *jolly boats*, leather cartridge cases (holding reserve small arm ammunition) 220 rounds, and 290 percussion caps.

In *gigs*, leather cartridge cases (holding reserve small arm ammunition) 200 rounds, and 290 percussion caps.

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*Master-at-Arms to provide the undermentioned stores for all classes of boats,*

1 suit of white clothing } To be stowed in ship's bags appropriately painted and numbered for  
 1   "   blue   "   } the class of boat.  
 1   "   blanket   "   }

Tea and sugar, mixed } In quarter cases, well luted, and  
 Cocoa   "   "   "   } air-tight.

Pork (raw) stowed in empty cocoa casks.

Spirits in breaker fitted with a stop-cock.

Light firewood.

Lanthorns and candles. Strike-a-light.

Water complete.

Men's tin-pot or basin, plate and spoon, stowed in a small box appropriately painted for each boat.

N.B.—A spare grape-case will answer all purposes.

1 pound of pork instead of  $\frac{3}{4}$  should be issued in lieu of flour, raisins, and suet.

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*"Armament," guns, rockets, &c.*

All launches of razees and upwards, and paddle-box boats of 1st and 2nd class steamers can carry 24-pr. howitzers with ammunition, &c., complete.

All 1st class barges can carry 18-pr. howitzers, or caronades, with ammunition, &c., complete.

All 2nd class barges, pinnaces, and yawls, and paddle-box boats of 3rd class steamers, can carry 12-pr. howitzers, or caronade, with ammunition, &c., complete.

All small pinnaces can carry one 24-pr. rocket-tube, with gear complete, or one 12-pr. howitzer.

All cutters can carry 12-pr. rocket-tube, with gear complete.

All jolly-boats can carry 6-pr. rocket-tube, with gear complete.

All gigs can carry one 3-pr. rocket-tube, with gear complete.

By which means all ships of the line and large frigates would command for their boats.

1 24-pr. howitzer in launch.

2 18       ,       or caronades in 1st and 2nd barge.

1 12       ,       or 24-pr. rocket in pinnace.

2 12-pr. rockets in cutters.

1 6       ,       jolly-boats.

2 3       ,       gigs.

And all other classes of ships in proportion, according to the number and size of their boats.

The breeching-rings in boats should be discontinued, and the breechings brought round the stem; leathered round the bow, and filling-pieces placed on each side of the bow outside, to prevent a nip.

In nine cases out of ten the dock-yard fit the slide and carriage in the boat-house, but never see the gun for which it is intended; the consequence is, the whole body of the gun is too low, and with caronades, the flash rim is often inside the bow by several inches.\* The *Agincourt* had to rise the slide of her howitzer 5 inches forward, and 11 inches aft, and to cut away the fore part of the grove 4 inches to allow the T bolt sufficient room to

\* I had to examine the boats of all the India Squadron when the Commander-in-Chief inspected them, and I never observed any carriage placed high enough, laid horizontal, or fitted to fire the gun clear of the stem head.

send the muzzle 8 inches clear of the bow ; when thus altered, the howitzer could be depressed sufficiently to fire a shot into the water 3 yards from the muzzle.

The boom of Maloodoo could have been forced by guns so laid ; half a dozen shot would have cleared the way for the axe and tide to separate the pieces, and allow an entrance ; but no guns could be depressed with the bow close enough to be certain of execution at the proper spot.

The barge and pinnace had to be altered in the same manner, the holes for the fighting-bolts given a different direction, and instead of sending a shot with the greatest depression 40 yards from the boat, were enabled to command within 3 yards of the bows. A great advantage would be gained if the stems were cut down level with the gun-whale ; fashion has considered the old method good, but if it does not strengthen the boat, and on the other hand, cutting down enables them to command on every side their fire, it ought to have a fair trial.

The *Cambrian*, Captain Chads, had the whole of her boat's stems cut down, and in the opinion of that able officer, it greatly increased their efficiency of fire. I think, placing two guns in a large launch is useless ; I know it is the English establishment, but I think few will advocate it who have had any experience in boat service ; the foremost slide, when the boat is under oars, answers every purpose for stern-firing ; and in the majority of cases in which British boats are likely to be employed, the bow-gun will "do duty," and when required, can be instantly available as a stern-chaser.

The stern-gun interferes seriously with the accommodation of men, officers, and stores ; is of no service in the advance, and placed in its present position, useless in a retreat ; its muzzle looks right for the rudder-head ; its flame would injure the coxswain, and set the mizen on fire ; and if the gun were pointed over the quarter, the boat would have to make a yaw of two

points before its fire could be delivered. I propose both ends of the slide to be similarly fitted for a fighting-bolt, with sockets on each quarter of the boat, and when the order is given "to prepare for stern-firing," to unship all loose thwarts, and drop them down amidships, through half-inch grooves, into the standing thwarts, as a platform for the slide to traverse on, to take out the fighting-bolt, run the slide and gun aft, drop in the bolt when the slide is on the socket, slack the T bolt, wind the gun round, screw up the bolt, breech and lay the gun, and ship all loose thwarts ; by such a method, stern-firing could be rendered available without interfering with sails or steerage, the stern-sheets would be clear, top-weight reduced, and if driving over a bar-river, like the Maloodoo, or Tampassook, less strain to the boat, as she strikes on the sand.

*In no other service but our own have gun-boats (ship's boom-boats) stern guns ;* those nations, whose fleets of gun-boats have been most active and successful, never considered it necessary to arm the stern, they fought it out with the bow-gun, and if they did not succeed, why, they very wisely left it alone. The Spaniard, Dane, Dutchman, and Swede, whose gun-boats comprise a national arm of defence, have not introduced it, and their great experience should have weight with Englishmen, who rarely hear of an English gun-boat, unless our revenue cruisers are considered in that light. The fleets of piratical prahus, which have been driven from the North Coast of Borneo by the operations in 1843, 1845 and 1846, are all heavily armed in the bow, having a strong breastwork across the fore part, as a protection against musquetry ; they remain at sea for months, experience bad weather, carry a crew of 60 or 80 men, are handled well, but have never been armed by the stern, except with a few lilas, which answer to our swivel ; had they in their constant warfare considered it prudent to have armed the stern, they most certainly would have done so.

In the *Agincourt's* launch, the stern-gun was taken out, a 24-pr. howitzer was fitted forward, and the 2nd barge received the launch's 18-pr. carronade, which she carried well under reefed sails, in a strong breeze, and the superiority of the howitzer, both in working and firing, was fully and repeatedly admitted, and bore out in practice the improvement. Captain Mundy spoke in the highest terms of the gun whilst the launch was under his command, during the operations up the Brune River, her formidable armament being every thing he could desire.

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### *Locks, Breechings, Tackles.*

There should be but one kind of Lock throughout the service ; but the vent-patches might be fitted for *all* locks at present employed in boats, until they are withdrawn from the establishment by the Board of Ordnance. Under the present system, boats of a squadron occasionally leave for service, each with a different description of lock, one, with a *spring detonator*, another, the *common hammer*, and the third a *flint*, neither of them enabled to fit into each others vent-patches. A lock is destroyed, or the tubes are bad, and no assistance can be given from the boats at hand : thus, the *Agincourt's* launch had a flint lock ; the 2nd barge, a spring detonator ; and the *Minden's* launch, a common hammer. These boats were cruising together after pirates for three days, twenty miles from their ships ; the same defect occurred repeatedly on the Coast of Borneo. In such a case, there can be no mutual dependence upon each others equipments.

Breechings should, in like manner, be of the same sized rope, 5 inch is large enough for a 24-pr. howitzer, and not unhandy for a 12-pr. carronade ; the carronades could then command, if required, the spare breechings of large guns whose recoils are less in proportion.

All tackles for boat's guns should be of the same size rope, viz., 1 $\frac{1}{2}$  inches, and blocks 6 inch.

Screws of carronades, whether 18 or 12-pr., should have the same box, thread, and diameter.

If these arrangements were made, there could be no objection on the score of extra expense; on the contrary, it would rather be favorable to the economy of stores, and facilitate the due performance of their general duties in positions of distress or difficulty.

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### *Manning.*

Great judgment is required in manning a boat for distant service; and to strike a happy mean between a too crowded and a too lightly manned boat is productive of infinite benefit to the men, who have no choice but to go. To jamb men into uncovered boats like so much ballast, is highly prejudicial to good order and fair service. Give a crowded boat a heavy tropical shower, a long pull, and a dull boat, and temper will be seen to fail; and in the place of good spirits, discontent is likely to be produced; which if backed by harsh reprimands from commanding officers, bids fair to spoil all well planned attempts at success, and in the long run, possibly bring failure and disgrace on the expedition. It is impolitic to man a boat for several days as if she was intended to start on a chase of a few hours; but it is a difficult question to answer promptly and correctly, how many armed men can be comfortably and safely billeted for days in a boat with all the requisite stores for defence and personal convenience at hand; nevertheless, it is a question that in most cases must be met and regulated on the spur of the moment, when indecision is a loss of time, and reflection comes too late

for service. It should have formed a part of a ship's internal economy, when time and judgment were at command, and not left to be arranged at the last moment.

A man's feelings are not to be envied, who in the emulation of surrounding ships, finds himself hurried and confused ; repeating and cancelling orders, because he has had no system ; and his patience and his discipline worked upon by guns and flags, as pleasant reminders of his method.

The plan I recommend will meet three cases of manning, agreeing with the conditions of service, on which boats are likely to be dispatched, viz.—

For any time when carrying guns or rockets.

For immediate landing with guns or rockets.

For immediate landing without guns or rockets.

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**Each Boat can carry, including Officers, Seamen, and Marines.**

Stored and Provisioned for Distant Service for —— days.			Stored for Dist. Service but not Provisioned.		No. extra Stores, or Provisions.	
For any time when carrying Guns or Rocket Tubes.			For immed. Landing, carryg. Guns or Rockets.		Without Guns or Rockets.	
Name of Boat.	Includ- ing Officers, Seamen, and Marines.	Composed of	Includ- ing Officers, Seamen, and Marines.	How increased.	Includ- ing Officers, Seamen, and Marines.	How increased.
Launch and Paddle-box Boats of large Steamers.	50	1 Lieutenant 1 Mate 1 Midshipman 1 Mar. Officer 1 Surgeon 1 Coxswain 1 Carpenter 18 Crew 1 Serjeant, and 24 Rank & File 1 Lieutenant 1 Mate, or 1 Midshipman 1 Mar. Officer 1 Surgeon 1 Coxswain 1 Carpenter 16 Crew 1 Serjeant, and 12 Rank & File 1 Lieutenant 1 Midshipman 1 Coxswain 1 Carpenter 14 Crew 1 Corporal 9 Rank & File 1 Mate, or 1 Midshipman 1 Coxswain 1 Carpenter 10 Crew 1 Corporal 4 Rank & File 1 Mate, or 1 Midshipman 1 Coxswain 1 Carpenter 8 Crew 1 Corporal 4 Rank & File 1 Midshipman 1 Carpenter 6 Crew 1 Corporal 2 Rank & File 1 Officer 1 Carpenter 1 Orderly 6 Crew 1 Midshipmen 1 Orderly 4 Crew	76	16 Marines	95	45 Marines
Barges and Paddle-box Boats of 2nd Class Steamers.	35		52	17 Marines	56	21 Marines
Pinnaces.	28		40	12 Marines	48	20 Marines
Large Cutters.	18		24	6 Marines	24	6 Marines
Small Cutters.	18		22	6 Marines	22	6 Marines
Jolly Boats.	11		14	3 Marines	16	5 Marines
6 Oared Gigs.	9					
4 Oared Gigs.	6					

The *first* plan would be necessary for cruizing boats away from their ships.

The *second* would require the day's provisions cooked.

The *third* is with shipping at hand, making a descent, as in Egypt, Copenhagen, or Montego Bay, and for all landings to exercise small-arm men and marines.

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Boats' guns of every ship should always be ready for immediate service by being kept on their slides and carriages, with their screws, coins, locks, sights, and aprons on, and secured by their breechings and tackles ; if placed upon temporary trucks, they are available as top guns during action, and become "ready supports" in boarding, or repelling an attack if loaded with small charges and double case, as they scatter wide if fired with small initial velocity.

Where ships of the line send four armed gun-boats away, exclusive of rocket-boats, two boom boats' guns can be conveniently stowed on the lower deck, close to the manger-board and bridal-ports, and be well clear of the working cables, messenger, ganger, hawsers, or transported guns (if chasing), from that position they are readily whipped out by the spare tackles supplied for the foremost divisional quarters, hooked to the cat-heads, and worked on the forecastle ; and the spare breechings, fighting bolts, sponges, rammers, worms, grape, and wads (triced up overhead) handed in, and the boats stored and provisioned from the same ports ; boat ropes from the bumpkin ends will be requisite to hold on by.

This plan is dependant upon weather, and may not answer in a head sea ; but in moderate weather, and smooth water, will be expeditious, as it enables the two largest boats to "arm" from the main-yard (the ship being of course hove to, and the main-

yard square), and the cutters, gigs, and jolly boat, from the quarters and stern.

To store and provision the two large boats, the quarter-ports on the lower deck are the best adapted for rapidity, and would give clear gangways (a desirable object in a senior officer's ship). The cutters under the fore chains; the marines told off to the different boats must be at hand near the respective loading ports as soon as possible, and when the boats are ready for their reception, descend into them by small hanging steps, hooked in-board to the breeching bolts, using the port laniards, always rove in line of battle ships at sea as man ropes; the port-bars and side-tackles must be removed when first loading.

Provided that the necessary precautions have been taken to ensure uniformity and quickness by properly appointing to men (not *boats' crews*) the duties of collection, eight boats belonging to frigates and line of battle ships (after the guns are mounted) can store and provision with the rapidity of one without confusion, in the following manner, viz.—

*2nd barge and pinnace.—Bridal ports, side hoisted out or stowed.*

*1st cutter.—Starboard port, under fore chains.*

*2nd cutter.—Port                    „            „*

*Launch.—Starboard quarter ports.*

*1st barge.—Port            „            „*

*Jolly boat and gigs.—Stern ports.*

When boats are not sailing, the masts should be slung over the sides in stout beackets.

If boats had *small quarter lumber irons*, the awnings and sails could be placed in them, they would be handy in stowing many things, and assist materially in giving room and in cleaning boats, and would not be in the way of pulling or tossing oars.

*“Arms and accoutrements for men employed  
in boats.”*

*Boats' crews*.—Cutlas, musquet and bayonet.

*Coxswains*.—Pistol and cutlas.

*Small-arm men*.—Musquet, bayonet, water bottle and haversack.

*Marines*.—Musquet and bayonet, forage caps, red jackets, fatigue frocks, and *waist* accoutrements, similar to artillerymen.

Each musquet to have a canvas cover, and to be becketed up under the respective thwarts.

The primary position of “*stowing, arming, and manning*” boats being arranged, the next point to consider is how their united force can be rendered available and formidable in carrying out the objects contemplated in their collection ; to work even a division of boats (eight or nine in number) by the voice is impossible, without lungs of iron ; to forward messages from one end of a line to the other by despatch boats creates delay, especially if there is wind and tide to be stemmed, and hardly possible if distance be increased by negligence or inattention in steering during the night, or in fogs by day. Whippers in, I am afraid, will be necessary in large divisions, either from incompetency or misconception of signals or stations ; but, to multiply them by rendering all manœuvres dependent upon their rapidity, I consider but a poor method in comparison to signals and repeating boats. But here comes a difficulty, every small squadron, even every private ship, have signals of their own : they admit by such proceedings the necessity of some rule to guide them, but are obliged to adopt some local plan of their own in the absence of a general one. Why not, therefore, issue from the Board, a “*Boat Signal Book*,” keeping as close to the general one as condensation and size will admit of.

Most large squadrons of late years, or more properly the Commanders-in-Chief of those squadrons have a signal book of their own, but they do not make it imperative on every ship joining, to supply herself with one; consequently no advantages are gained to the service through uniformity of drill and manœuvres. Considering, therefore, that many reasons may be advanced in favor of a signal book, and but few or none can militate against it, a base is easily found to commence from, in the plan of those flag officers whose attention has been called to this particular branch of boat service. Sir P. Malcolm, Sir E. Codrington, Sir W. Parker, Sir E. Owen, and Sir Thomas Cochrane, had a system of signals more or less general for their squadrons, and the last named officer issued a general order for all ships on joining to supply themselves with one for each of their boats, and also a boat drill for exercise applicable for one ship or a dozen. The squadron of boats was constantly exercised sometimes twice a week, generally once, and with manifest advantage to unity of power and direction.

By collecting the signal books of these flag officers, and embodying their best portions into a system, a boat signal book might be issued by command of their Lordships to the fleet, and its introduction attended with certain convenience to the public service.

How often might a heavy pull against a strong tide, and in the night time, have been avoided, if the commanding officer of an in-shore ship could have directed by signal, a heavily loaded boat to take advantage of his local knowledge when the officer of that boat, ignorant of eddies, had not made allowance for change of tide, *et cetera*; and if in numerous instances these delays occur on stations where there is no "boat work," strictly speaking, of what consequence does not it become, where large divisions of boats are occupying positions that can only be reached by signals,

and a constant communication is necessary for defence, and a rapid concentration for attack.

If every commanding officer of a division repeats the signal from the leader, no matter where that leader is placed, or the extent of surface covered, two minutes ought to place each boat in possession of the leader's meaning, a period impossible if despatch boats are employed, or voices used.

It would be presumption in me to lay down a rule for boat signals. It is sufficient if I have mentioned the books of the above distinguished flag officers ; and I cannot but consider the measure a wise one when sanctioned by such authority.

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*Statement of efficiency.*

Suppose a fleet of 30 or 40 boats, ordered by signal to rendezvous 6 or 8 miles from their ships, each division starting for the appointed place without regard to seniority, because on the ground signalized, they will arrange in order of pulling or sailing.

As each division comes upon the rendezvous, would it not be a hard task upon the commanding officer if he was obliged personally to inspect for himself, every boat from a launch to a jolly boat, in order to ascertain the comparative efficiency of each boat? An order enforced by the Commander-in-Chief on the Indian station, obtained for the Commander of the drill immediate reference to the boats' equipment in all essential particulars.

It was as follows.—On a ship's boats joining, the officer of the division, immediately he had placed his boats in the prescribed order, pulled towards the leader, and delivered him a written statement, in which was mentioned the number of his boats, their distinguishing pendants, armament, manning, *et cetera*, in a form similar to the one immediately following.

## No. 5.

*A statement of Boats of H. M. S. ——, efficient for —— (distant or otherwise) service, on the —— day of ——, Labuan, (or place denoted).*

No.	Officer in command	Specification.	Seniority of Captain. Distinguishing Pendants Ensign over.	Condition.	Armament.		No of Marines. Name	Small-arm Men Crew.	Comp. in Stores Complete do do	Complete in day's provisions do do	REMARKS.
					24-pr. Howitz.	16-pr Carr.					
1	Lieut. A.	Launch.	1	1	Good	24-pr. Howitz.	26	24	21	do	The Rocket tubes are fitted with legs to enable them to land. Field Pieces are not in any of the boats.
2	Lieut. B.	Barge.	..	2	do.	16-pr Carr.	14	do	do	do	
3	Lieut. C.	Pinnace.	..	3	do.	12-pr ditto 24-pr Rocket.	10	do	18	do	
4	Lieut. D.	1st Cutter.	..	4	do.	12-pr ditto.	5	do	11	do	
5	Mr. A.	2nd Cutter.	..	5	do.	12-pr ditto.	5	do	11	do	
6	Mr. B.	Jolly Boat.	..	6	do.	6-pr ditto.	3	do	8	do	
7	Mr. C.	1st Gig.	..	7	do.	3-pr ditto	1	do	8	do	
8	Mr. D.	2nd Gig.	..	8	do.	3-pr. ditto.	1	do	5	do	

*Signed, A. B., Lieutenant.*

The wording of the order alluded to was.—“When boats are ordered for service or exercise, the officer commanding each ship's boats, must have ready for the senior officer present, a written statement, containing the number of boats under him, their specifications, condition, armament, number of marines, small-arm men (stating number of rounds of ball cartridge), and crew employed in them, agreeably to the beforementioned plan, and will be careful beforehand to acquaint the officers under him, of the seniority of his ship, in the event of any his boats being designated by signal.”

Such a statement gave the commanding officer at a glance the effective “state and condition”—and the document was given in (when required) to the Commander-in-Chief, with any notes

the officer in charge of the drill considered necessary. Now, I consider, that a senior officer, holding in his hand the signed equipments of all his boats, is placed in a superior condition for immediate duty above one who is by personal inspection obliged to discover the armament, and probably detect serious defects. In the one case there is confidence; in the other distrust.

*Lastly.*—For purposes of movements under oars, and to enable a rapid change of front to take place without entering into explanations, the boats of the squadron were exercised on a plan arranged by the Admiral, and is the basis of the one underneath.

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## BOAT DRILL UNDER OARS.

*The boats to be drawn up in one or more lines abreast, heads as per signal, and numbered off from right to left.*

*They are to be one boat's length apart, to keep their oars clear of each other.*

*All boats are to dress when rowing in line, by the boats upon the extreme right, left, and centre.*

When the line has to change its direction by throwing forward its left or right; and the word or signal is given,

### 2.—*Pull.*—“*Points to Starboard,*”

The extreme right boat is to consider herself the pivot, and to turn her head (without advancing) as nearly as possible in the direction intended, and to remain on her oars until the line has dressed by her; the next boat only paddling up a little, and so on with the next to her, until the whole line has dressed from the boat on the right.—But when the order is given,

**3.—*Pull.—“Points to port,”***

The extreme left boat becomes the pivot, and the directions for the extreme right boat are to be followed with regard to her. When the order or signal is given,

**4.—“*Pull short round to port or starboard, and change front,*”**

All boats are to pull round at once, either to port or starboard, as may be directed, holding water with the inner oars; and care is to be taken in all their movements, that the smaller boats make due allowance for the sweep of the larger, so as at all times they shall respectively keep their proper line and distance.—When the order or signal is given,

**5.—“*Form starboard line ahead,*”**

Each boat is to pull round quick to the starboard hand, bringing the boat that was on her starboard beam right ahead.  
—If to

**6.—“*Form port line ahead,*”**

Each boat is to pull to the port hand, bringing the boat that was on her port beam right ahead.—When the boats are in line ahead, should the order or signal be given,

**7.—“*Form the starboard line abreast,*”**

Each boat is immediately to pull to port, bringing the boat that was ahead on her starboard beam.—If

**8.—“*Form the port line abreast,*”**

To pull to starboard, and bring the boat ahead of her on her port beam. When the boats are in line ahead, should the order or signal be given,

**9.—“Form starboard line abreast on leading boat,”**

The leading boat rests on her oars, the remainder open out to port, and form successively on the port beam of her immediate leader, dressing by centre and pivot boat.—If

**10.—“Form port line abreast on leading boat,”**

The leading boat rests on her oars, the remainder open out to starboard, and form successively on the starboard beam of her immediate leader, dressing by centre and pivot boat. When the boats are in line ahead, should the order or signal be given,

**11.—“Form starboard line abreast on centre boat,”**

The centre boat rests on her oars, all boats ahead of centre pull short round to starboard, and when abeam, wind short round to starboard again, and dress on the centre and pivot boat; all boats astern of centre open out to port, and form successively on the port beam of her immediate leader, dressing by centre and pivot boats.

**12.—“If port line abreast on centre boat,”**

The centre boat rests on her oars; all boats ahead of centre wind short round to port again, and dress on the centre and pivot boats; all boats astern of centre open out to starboard, and form successively on the starboard beam of her immediate leader dressing by centre and pivot boats.

If advancing in line abreast, the order or signal is given,

**13.—“Form line ahead on centre boat,”**

The centre boat pulls easy on her oars; all boats on the starboard hand incline to port, and preserving the line of bearing

(until no longer necessary) form ahead of each other, the extreme boat on the right leading; all boats on the port hand of the centre pulls short round to starboard, backing inner oars and then inclining to port, and preserving the line of bearing (until no longer necessary) form astern of each other, in the wake of the leading boat.

If in line abreast, and the order or signal is given,

**14.—“Form line ahead on the right or left pivot boats,”**

The pivot boats pull easy to the front, the remainder form starboard or port line ahead, and moving in the wake of their immediate leaders, form in succession in the wake of the leading boat.

If the boats are in line abreast, and the order or signal is given,

**“15.—Advance from the centre in two columns,”**

The two centre boats immediately lead out to the front and give way, all boats on the starboard hand of the centre close to port, and form in the wake of the centre boat, leading their column; all boats on the port hand of the centre close to starboard, and form in the wake of the centre boat leading their column.

If advancing in this formation, the order or signal is given,

**16.—“To reform line abreast,”**

The two centre boats lay on their oars, all boats astern open out to starboard or port, and reform the line abreast, dressing by centre and pivot boats.

If pulling in line abreast, the order or signal is given,

**17.—“Decrease the front and form two lines,”**

Each even numbered boat (beginning with the second from the right, when first formed) is to lay upon her oars, until the odd numbered boats are two boats' lengths ahead, when both divisions will close upon their centre boats, the bows of the boats of the second division pointing to the spaces between those ahead.

If pulling in two lines, the order or signal is given,

**18.—“Form in one line,”**

The centre boat in the first line will continue pulling very gently right ahead; the other boats will incline to starboard and port, until they have made spaces sufficient; the rear division will do the same, and when the space is sufficiently open, row up into the opening.

If it be found necessary to move boats to the front and flank at the same time (whether in one or more lines), when the order or signal is given,

**19.—“Alter course—Points to port or starboard,”**

All boats immediately alter course as directed, taking great care to preserve the distance and positions of the previous formation by line of bearing.

When sufficient ground has been taken, the order or signal is given,

**20.—“Alter course—Points to starboard or port,”**

All boats will immediately resume their original advance, the distance and position of which have been kept by line of bearing.

If pulling in one or two lines, the order or signal is given,

**21.—“Form two lines—Gun boats leading,”**

The gun boats will immediately pull to the front, and closing on the centre, form the first line; the remainder will lay on their oars, until the gun boats are two boats' lengths ahead, then form on their centre, and become the second line.

*Pivot and centre boats, the better to distinguish them, ought to be furnished with a small staff having a flag and placed in the bows.*

All dressing should be if possible kept upon the pivot boats, as they are “*points*” to the line, but the large heavy boats should regulate the pulling. Coxswains of boats cannot have a better guide for dressing than the ensign staffs, and if not shipped themselves, as a rule get all *ensigns*, or *boats' sterns in one*, they will be found very useful to preserve a line of bearing when moving ahead and to a flank at the same time, to clear obstructions.

Advancing from the *right, left, or centre* is useful when an extended line has to enter a bar harbor, or pass between shoals, dry sand banks or tiers of shipping.

Advancing in *two lines with gun boats leading* is serviceable if dreading a probable attack, or ready to commence one, as the small boats cannot be so useful, and are at hand as a reserve when wanted and with gun boats in front, and obliged to *advance from the centre*, they are immediately ready to reform line and deliver their fire; but care must be taken that the rear division, consisting of small arm men and marines, do not commence the formation of their columns until all the gun boats have closed upon their central leaders; this plan of attack was adopted at Malloodoo Bay in 1845, and in forcing the river Brune in 1846.

When the boats for compactness are drilled in two or more lines, and it should be necessary to change direction, care must be taken by the rear divisions always to move on the arch of a circle, to get into the wake of their leaders, in the front divisions. As a guide to coxswains, "*keep the stem and stern of your immediate leader in the front division in one during the change;*" this drill might, if required, be enlarged, and embrace more positions, suited to steam vessels; for the day is not far distant when a system of combined movements will be necessary for steamers, as it will be ridiculous to confine vessels moved by oars, or steam to manœuvres, dependant for their position on wind, when wind is not the propelling power. Paul Hoste, and the tactics of the Venetian galleys will be found more useful than "*orders of sailing,*" when no sails are used; and every steamer must soon learn to be manœuvred as quickly, and accurately as a regiment in a brigade. A just and quick judgment in regard to distance; a knowledge of tides and currents, in the immediate vicinity; a speed always under command, and a good helmsman, are absolutely requisite, and as necessary for the prompt performance of a movement, as the oars or steam which propel the vessels. Some naval men will no doubt consider such movements as unnecessary, perhaps useless, when applied to service; but it will be probable that they can give no sound reasons for their assertion, that they have never practically applied them themselves, or seen them tried by others; their opinions, though given authoratively, must therefore be taken cautiously, and if they advance statements, let them prove them. Every naval officer knows that the signal book has manœuvres (capable of ready application) for ships of war, that use wind and sails as their guiding powers. They would smile if they were told some seaman had inveighed against them with all his nautical ability, because it savoured too much of "*soldier craft,*" or did not agree with his "*fitness of things;*"

but while they stand in our signal book, evidences of the necessity of combination, they give a precedent to adopt for another arm differently moved a similar course of proceeding.

In land services, corps of infantry, cavalry and artillery are differently manœuvred, but it is necessity that compels the alteration, and they are confined as closely by approximation as the connexion will possibly admit of; and now, when in the navy such a change takes place, as, that large and powerful vessels need no wind for propulsion, so must such strange, and till of late years, unknown powers be commanded, and controuled by rules befitting their existence, if their concentration is of consequence in the hour of battle, and the blow struck in the hour of attack made prompt, permanent, and decisive.



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**TABLES.**

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No. 1.

*Master-at-arms to provide the stores undermentioned for all classes of boats.*

1 suit of white clothing.	Tea and sugar mixed.
1   ,   blue   ,	Cocoa   ditto.
1   ,   blanket   ,	Pork (raw).
Light firewood.	Spirits.
Lanthorn and candles.	Strike a light.
Men's tin pot or basin, plate and spoon.	Water (complete).

N. B.—1 lb. of pork, instead of  $\frac{3}{4}$  lb., should be issued in lieu of flour, raisins, and suet.

No. 2.

*Armament for boats of ships of the line, and large frigates.*

DESCRIPTION OF BOAT.	ARMAMENT.
Launch.	1-24 pr. howitzer.
1st and 2nd barge.	2-18 pr. ditto.
Pinnace.	1-12 pr. ditto, or 24-pr. rocket.
Cutters.	2-12 pr. rockets.
Jolly boat.	1-6 pr. ditto.
Gigs.	2-3 pr. ditto.

Other classes of ships in proportion, according to the number and size of their boats.

**No. 3.**  
**Manning Boats.**

Stored and Provisioned for Distant Service for — days.			Stored for Dist. Service but not Provisioned.		No. extra Stores, or Provisions.	
For any time when carrying Guns or Rocket Tubes.			For immed. Landing, carryg. Guns or Rockets.		Without Guns or Rockets.	
Name of Boat.	Includ- ing Officers, Seamen, and Marines.	Composed of	Includ- ing Officers, Seamen, and Marines.	How increased.	Includ- ing Officers, Seamen, and Marines.	How increased.
Launches and Paddle-box Boats of large Steamers.	50	1 Lieutenant 1 Mate 1 Midshipman 1 Mar. Officer 1 Surgeon 1 Coxswain 1 Carpenter 18 Crew 1 Serjeant, and 24 Rank & File	76	26 Marines	95	45 Marines
Barges and Paddle-box Boats of 2nd Class Steamers.	35	Ditto, except 16 Crew 1 Serjeant, and 12 Rank & File	52	17 Marines	56	21 Marines
Pinnaces.	28	Ditto, except no Marine Officer or Surgeon. 14 Crew 1 Corporal 9 Rank & File	44	16 Marines	48	20 Marines
Large Cutters.	18	1 Mate, or 1 Midshipman 1 Coxswain 1 Carpenter 10 Crew 1 Corporal 4 Rank & File	24	6 Marines	24	6 Marines
Small Cutters.	16	1 Mate, or 1 Midshipman 1 Coxswain 1 Carpenter 8 Crew 1 Corporal 4 Rank & File	24	8 Marines	24	8 Marines
Jolly Boats.	11	1 Midshipman 1 Carpenter 6 Crew 1 Corporal 2 Rank & File	14	3 Marines	14	6 Marines
6 Oared Gigs.	9	1 Officer 1 Carpenter 1 Orderly 6 Crew				
4 Oared Gigs.	6	1 Midshipman 1 Orderly 4 Crew				

No. 4.

*Arms and accoutrements of men employed  
in boats.*

QUALITY.	Cutlas.	Musquet.	Bayonet.	Pistol.	Water breaker.	Haversack.
Coxswains.	1	1	1	1	—	—
Each of Crew.	1	1	1	—	—	—
Small-arm men.	—	1	1	—	1	1

No. 5.

*A statement of Boats of H. M. S. ——, efficient for ——  
(distant or otherwise) service, on the —— day of ——, Labuan,  
(or place denoted).*

No.	Officer in command	Specifi- cation.	Seniority of Captain. Distinguishing Pendants Ensign over.	Condition.	Armament.		No. of Marines.	Small-arm Men	Crew.	Comp. in Stores	Complete in day's provisions	REMARKS.
					24-pr. Howitz.	16-pr Carr.						
1	Lieut. A.	Launch.	1	1	Good	24-pr. Howitz.	26	Native.	24	do	do	
2	Lieut. B.	Barge.	..	2	do.	16-pr Carr.	14	do	21	do	do	
3	Lieut. C.	Pinnace.	..	3	do.	12-pr ditto 24-pr Rocket.	10	do	18	do	do	
4	Lieut. D.	1st Cutter.	..	4	do.	12-pr ditto.	5	do	11	do	do	
5	Mr. A.	2nd Cutter.	..	5	do.	12-pr ditto.	5	do	11	do	do	
6	Mr. B.	Jolly Boat.	..	6	do.	6-pr ditto.	3	do	8	do	do	
7	Mr. C.	1st Gig.	..	7	do.	3-pr ditto	1	do	8	do	do	
8	Mr. D.	2nd Gig.	..	8	do.	3-pr. ditto.	1	do	5	do	do	The Rocket tubes are fitted with legs to enable them to land. Field Pieces are not in any of the boats.

*Signed, A. B., Lieutenant.*

No. 6.

*The quantities of Provisions for the undesignated Boats' Crews, employed on distant service for seven days.*

Names of Boats.	No. of Men victig.	No. of days victig.	Bread lbs.	Pork lbs.	Rum, galls.	Mixed			Bread to be stowed either in Whole cases containing 50 lbs.		Pork to be stowed with pickle in Cocoa casks, containing 30 4lb. pcs.		REMARKS.		
						Tea.	Sugar.	Cocoa.	oz. lbs.	oz. lbs.	oz. lbs.	oz. lbs.			
Launch.	50	7	350	350	10 $\frac{1}{2}$	5	7 $\frac{1}{2}$	10	15	21	14 $\frac{1}{2}$	14	7	9	3
Large Barges.	35	7	245	245	7 $\frac{1}{2}$	3	13 $\frac{1}{2}$	7	10 $\frac{1}{2}$	15	5 $\frac{1}{2}$	5	6	2	
Small ditto and Pinnaces.	20	7	196	196	6 $\frac{1}{2}$	3	1	6	2	12	4 $\frac{1}{2}$	4	5	2	
Large Cutters.	18	7	126	126	3 $\frac{1}{2}$	1	15 $\frac{1}{2}$	3	15	7	14	7	3	1	
Small ditto	16	7	112	112	3 $\frac{1}{2}$	1	12	3	8	7	0	7	0	1	
Jolly Boat.	11	7	77	77	2 $\frac{1}{2}$	1	3 $\frac{1}{2}$	2	6 $\frac{1}{2}$	4	13	4	13	1	
6 oared Gigs.	9	7	63	63	1 $\frac{1}{2}$	0	15 $\frac{1}{2}$	1	15 $\frac{1}{2}$	3	15	3	15	1	
4 ditto.	6	7	42	42	1 $\frac{1}{2}$	0	10 $\frac{1}{2}$	1	5	2	10	2	10	1	

N. B.—Breakers for containing bread, will contain 40lbs. for all boom boats.

Tools required for opening and heading up Cocoa Casks.—1 hammer, 1 driver, 1 bung.  
2 mallets, 2 axes, 2 adzes, 2 axes for the casks.







